#Exercise 4-1\

Support threshold = 2

TransID	Items
A	6
B	6
C	7
D	5
E	6
F	3

TransID	Items
AB	4
AC	4
AD	2
AE	4
AF	1
BC	4
BD	4
BE	4
BF	2
CD	3
CE	5
CF	3
DE	1
DF	2
EF	1
Her fjerner vi altså AF, DE, EF fordi de er under 2:	

TransID	Items
AB	4
AC	4
AD	2

AE	4
BC	4
BD	4
BE	4
BF	2
CD	3
CE	5
CF	3
DF	2

TransID	Items
ABC	2
ABD	2
ABE	2
ACD	1
ACE	3
ADE	0
BCD	2
BCE	3
BCF	2
BDE	1
BDF	1
BEF	1
CDE	1
CDF	2
CEF	1
Nu fjerner vi ACD, ADE, BDE, BDF, BEF, CDE, CEF	

TransID	Items
ABC	2
ABD	2
ABE	2
ACE	3

BCD	2
BCE	3
BCF	2
CDF	2

TransID	Items
ABCD	1
ABCE	1
ABDE	0
BCDE	1
BCDF	1
BCEF	1
Her skal alle fjernes, og tabellen er derfor irrelevant. Vi bruger forrige.</td>	

Result: ABC, ABD, ABE, ACE, BCD, BCE, BCF, CDF\

TransID	Items
ABC	2
ABD	2
ABE	2
ACE	3
BCD	2
BCE	3
BCF	2
CDF	2

#Exercise 4-2
Warmup exercise...: \
dist2(p, q) = 5.3851 . . .\
dist1(p, q) = 9\
dist∞(p, q) = 4\
distw (p, q) = 7.1063\
distM1(p, q) = 5.3851 . . .\
distM2(p, q) = 8.4261 . .\
ColorhistorgramsAndDistancefunctions.py \

(a) a (1, 4, 4), b(8, 1, 7), c(2, 4, 10), d(1, 2, 13), q(1, 8, 7)\

(b) \
Color histograms (red, orange, blue); distance\
q = (1, 8, 7)\

a = (1, 4, 4);dist(q, a) = 5\
b = (8, 1, 7);dist(q, b) = 9.9\
c = (2, 4, 10);dist(q, c) = 5.1\
d = (1, 2, 13);dist(q, d) = 8.5 \

ranking = a,c,d,b\

(c)The results are not entirely satisfactory. What could you change in the feature extractionor in the distance function to get better results? Report the improved feature extraction and features or the improved
distance function.\
Debatably, picture b is more similar to q than a or d are. The problem is that the Euclidean distance takes each color individually to compute the distance but does not take similarity betw een different colors (i.e., bins in the histogram) into account.\
A solution w ould be to use the quadratic form (a.k.a. Mahalanobis-) distance. We need a similarity matrix to define the (subjective) similarity of bins w ith each other\

se **ExtrasolutionsDistanceMeasuring.pdf**